UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,346	08/14/2001	Yoshiaki Yamauchi	520.40496X00	6680

20457 7590 04/09/2004

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-9889

EXAMINER	
CHEN, TIANJIE	
ART UNIT	**PAPER NUMBER**
2652	11

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/928,346	YAMAUCHI ET AL.	
	Examiner	Art Unit	
	Tianjie Chen	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 7-9* is/are rejected.

7)☒ Claim(s) *2,3,5,6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

2nd Non-Final Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajiyama et al (US 6,430,143) in View of Seki et al (US 5,581,523).

With regard to claim 1, and 8, Kajiyama et al shows disc driving apparatus in Fig. 1 including a housing; a rotation mechanism 8 disposed within the housing for rotating a disc 5; an optical pickup mechanism 14 disposed within the housing for reproducing or reproducing/recording information on the disc; wherein the optical pickup mechanism has a driving mechanism 13 (Column 4, line 48) for driving the optical pickup in a radial direction of the disc; the optical pickup includes a pickup housing 21 (Fig. 10), in which are mounted a laser diode emitting detection light for reproducing or recording information on the disc, an objective lens for guiding the detection light emitted from to a predetermined position on the disc and for guiding reflection light from the disc onto an optical detector, optical parts including a lens, a prism 75 (Fig. 32), a mirror (grating for reflecting light), and an optical detector for detecting the detection light (Fig. 1; column 4, lines 36-47).

Kajiyama does not show the detailed structure of the optical pickup mechanism.

Seki et al shows a optical pickup used for a disc driving apparatus (Column 1, lines 6-11) including; an optical pickup mechanism shown in Fig. 26 disposed within the housing for reproducing or reproducing/recording information on the disc; wherein the optical pickup mechanism has an optical pickup in 10 (Figs. 26 and 28); the optical pickup includes a pickup housing 10 made of metal (Column 4, lines 40-45), in which are mounted a laser diode 21 emitting detection light for reproducing or recording information on the disc, an objective lens 12 (Fig. 28) for guiding the detection light emitted from to a predetermined position on the disc 90 and for guiding reflection light from the disc onto an optical detector, optical parts including a lens 12 (Fig. 28), a prism 75 (Fig. 32), a mirror 11 (Fig. 28), and an optical detector 34 (Fig. 36; column 9, lines 29-30) for detecting the detection light; and laser driver circuit board 36+37 for controlling the laser diode (Column 9, lines 34-36); the laser driver circuit board, and that the laser diode 21 and the laser driver circuit board 36+37 are mounted in thermal contact with the pickup housing so as to be disposed adjacent to each other (Figs. 27, 28, and 32), , while lens holder 10 provides a thermal separation portion for thermally separating the laser diode and the laser driver circuit board.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to detail the optical pickup mechanism with the structure as taught by Seki et al. The rationale is as follows: Kajiyama et al does not specify the detailed structure of the pickup mechanism, specially the electronic circuit. Seki et al shows an integrated block, which has smaller size can be used for small optical memory device (Column 2, lines 24-27). One of ordinary skill in the art would have

been motivated to use the structure taught by Seki et al in order to minimize the size of the device.

2. Claims 4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajiyama et al and Seki et al as applied to claims 1 and 8, and further in view of Asoma (US 6,459,672).

With regard to claims 4, 7, and 9; Kajiyama et al and Seki et al show a device as described above, wherein a laser diode for emitting detection light for use with a CD, but fails to show a laser diode for emitting a detection light for use with a DVD

Asoma shows an apparatus, which includes an additional laser diode B (Fig. 3; column 5, lines 17-19) for emitting a detection light for use with a DVD.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to add the laser B into Kajiyama et al and Seki et al's device. The rationale is as follows: Asoma teaches that buy adding the laser, the device could be adapted for coping with plurality optical recording mediums of different kinds (Column 2, lines 9-11). One of ordinary skill in the art would have been motivated to add the second laser for coping with a plurality of recording mediums.

With regard to claims 7 and 9, Kajiyama et al further shows that the pickup housing 10 is defined by a sidewall formed all around the periphery thereof and a bottom wall, and the laser diodes for use with a CD, the laser driver circuit board and the objective lens driver are mounted therein in thermal contact with the pickup housing through metal sheet, wherein the laser diode for use with a CD and the laser driver circuit board are disposed so as to be adjacent to each other since they are integrated together to minimize the inductance.

Allowable Subject Matter

3. Claims 2, 3, 5, and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

- With regard to claim 2, as the closest reference, the combination of Kajiyama et al and Seki et al shows a disc driving apparatus, wherein the laser diode and the laser driver circuit board are mounted in thermal contact with the pickup housing so as to be disposed adjacent to each other, while providing a thermal separation portion for thermally separating the laser diode and the laser driver circuit board; **but fails to show** the thermal separation portion includes a dividing portion formed with either one of a slit portion or a recess gutter, for dividing the pickup housing, disposed between the laser diode and the laser driver circuit board, and a heat separation member disposed in the dividing portion.
- With regard to claims 5 and 6, as the closest reference, the combination of Kajiyama et al and Seki et al, and Asoma (US 6,459,672) shows a disc driving apparatus, wherein the laser diode and the laser driver circuit board are mounted in thermal contact with the pickup housing so as to be disposed adjacent to each other, while providing a thermal separation portion for thermally separating the laser diode and the laser driver circuit board; **but fails to show** the prism and the mirror of the optical portions and the optical detector are disposed nearer to the laser diodes for use with a CD and DVD

than to the thermal separation portion (Claim 5) and the thermal separation portion is provided so as to thermally separate either one of between the laser diode for use of the CD and the laser diode for use of the DVD, and between the laser driver circuit board and the objective lens driver (Claim 6).

- Applicant asserts that the device with above structure would reduce the thermal interference between heat-generating elements disposed in close proximity with each other, in particular, in the pickup, so as to enable protection of the heat-generating elements from deterioration leading to reduction in the lifetime thereof, and improve the accuracy of reproducing or reproducing/recording (Specification, p. 4, line 21 to p. 5, line 2).

Response to Arguments

5. Applicant's arguments with respect to claims 1, 4, 7, and 9 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tianjie Chen
Primary Examiner
Art Unit 2652
04/06/2004